

Samanpreet Kaur

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SKILLS

Programming: C++, Java, Python, JavaScript, HTML, CSS, SQL, React, ExpressJS, Kotlin, DSA, Cloud Computing

Database: DynamoDB, SQL (MS SQL Server), PostgreSQL, Firestore

Tools: AWS (EC2, S3, VPC, IAM), Git, IntelliJ IDEA, Visual Studio Code, Android Studio, MATLAB, Microsoft Office skills

Soft Skills: Teamwork, problem-solving, eye for detail, confident, highly motivated, leadership, strong communication, public speaking, sense of community

PROFESSIONAL EXPERIENCE

Teacher's Assistant, Simon Fraser University, Burnaby, BC | DSA, Research papers

August 2025 -current

Data Structures and Programming; Social Issues and Communication Strategies in Computing Science CMPT 105W

- Facilitate **weekly** one-on-one **office hours** to provide instructional support, **exam grading**, and constructive feedback, resulting in measurable improvement in student writing and technical communication skills.
- Translate **complex technical concepts** into **clear, student-friendly explanations**, helping solve coding problems, fostering academic confidence which help them deepen DSA knowledge and frame their essays well.
- Collaborate** with **faculty** and fellow TAs to coordinate instruction, manage grading timelines, and demonstrating effective **teamwork** which ensures delivery of necessary feedback timely.

PROJECTS

Mobile Workout Tracking Application | Kotlin, Android Studio, SQLite

September 2025- December 2025

- Designing an Android fitness application with **interactive UI enabling** users to record, view, and manage workouts.
- Integrating 3 workout modes: manual input, GPS-based tracking using Google Maps API, and automatic activity inference leveraging accelerometer sensor data, using **machine learning classifier** and **Kotlin**.
- Built a user profile module with camera/gallery integration for profile images, privacy preferences, and unit selection.
- Optimizing data persistence and retrieval by implementing **SQLite database management** and **Android lifecycle handling** for reliable performance.

Backstage Concert Companion Mobile Application | Kotlin, Android Studio, Firebase, MVVM

October 2025- December 2025

- Developing a **concert-tracking application with an intuitive multi-tab interface**, enabling users to explore events, connect with friends, and manage interests through a smooth, modern UI **using MVVM architecture**.
- Implementing **real-time event search by integrating Ticketmaster's API**, allowing users to browse local and international concerts with live updates and personalized content based on location and preferences.
- Building a scalable user account system **using Firebase Authentication and Firestore**, supporting secure login, profile management, saved events, and synced cross-device data for a consistent user experience.

Ferry Reservation System | C++, GitHub, Binary File I/O, Requirement Analysis, Kanban

May 2025- August 2025

- Developed a **C++ application** to manage ferry reservations, vehicle check-ins by applying **agile practice**, closely following Software Development Life Cycle (**SDLC**) and real-world system design.
- Prepared all **software engineering documents** from scratch including requirements analysis, UI, architectural and detailed design document with deep emphasis on scrutiny, features and design tradeoffs.
- Implemented binary file I/O to handle the data, conducted peer code reviews, performed big-bang integration, and **unit testing** with over 80% statement coverage.
- Coordinated with team using the version-control on **GitHub** and **Kanban system** to maintain consistency which promoted workflow transparency.

Squat Posture Classifier Machine Learning | Python, MediaPipe, scikit-learn

May 2025- July 2025

- Implemented a KNN-based classifier to detect correct vs. incorrect squat posture using a video input from client using python, scikit-learn.
- Optimized accuracy through feature engineering and model tuning to achieve 80% accuracy.
- Integrated MediaPipe pose estimation to extract key landmarks, enabling reliable real-time feature extraction.

EDUCATION

Artificial Intelligence & Visual and Interactive Computing Concentration, Bachelor of Computer Science

Simon Fraser University, Burnaby, BC

January 2025 - **August 2027** (Expected Graduation)

Associate of Computer Science

Langara College

August 2022-December 2024

ADDITIONAL EXPERIENCE

Security Operator , *Amazon Web Services (AWS), Vancouver, BC*

December 2022 – current

- Communicate construction updates and safety concerns **with over 100 visitors** and contractors by answering questions and giving building access to create a **positive everyday experience**.
- Document daily operations using security software and reporting tools to **ensure transparency** in the business's operations.
- **Coordinate** with **cross-functional teams** to identify and resolve security issues proactively, contributing to a safe and seamless operational workflow.

Student Engagement Assistant, *Langara College, Vancouver, BC*

April 2024 -December 2024

- Handled **college's inventory** for club activities by maintaining Excel sheets and inventory tracking systems to provide resource management.
- Organized student events by providing needed materials on time that helped run careers, clubs and cultural fairs smoothly.
- **Promoted awareness** about campus resources by answering **over 50 students** and **staff inquiries** about wayfinding and help options to make **campus life accessible** for all.

VOLUNTEER EXPERIENCE

Volunteer with Vancouver Police, *Kitsilano Fairview Community Policing Centre, Vancouver, BC*

August 2023 – May 2025

- Conducted 2-hour **community foot patrols** frequently to identify threats and report safety or general hygiene incidents to police/city officers, ensuring timely **attention to unlawful activity** and unclean neighborhoods.
- Resolved **15+ resident phone queries per day** by directing callers to appropriate **police** or **city** services, leading to residents feel more aware and improve their **access to community resources** significantly.
- **Partnered** with Vancouver Traffic Police and ICBC to check the speed of 100+ vehicles per shift using radar equipment, assisting in enforcement actions to halt speeding.

New Student Orientations Volunteer, *Langara College*

April 2023 – May 2024

- Welcomed and guided over **500 new students** during orientation sessions, ensuring a smooth transition to college life through campus tours, resource explanations, and personalized support.
- Collaborated with Student Engagement staff and fellow volunteers to coordinate orientation logistics, resulting in **well-organized events** that improved student satisfaction and participation rates.
- Fostered a friendly and inclusive environment by **answering questions** about **academic programs**, student services, and campus involvement opportunities, **helping newcomers** feel confident and connected.

School Captain | Leadership Involvement , *PKS International School, India*

April 2016 – May 2019

- **Led a school House team** for 2 consecutive years, organizing and training students for 10+ extracurricular activities including public speaking and games, contributing to **winning the Best House Trophy both years**.
- **Served as class monitor for 8 years** by monitoring class for disruptions in teacher's absence or leave and supporting teachers in test marking which maintained class discipline.
- **Anchored school's Annual Event 4 times** by introducing dance items, skits, and announcing prize winners, providing an enjoyable and well-led experience to the audience.